

University of Groningen

Transforming childbirth practices

Li, Minghui

DOI:
[10.33612/diss.127915946](https://doi.org/10.33612/diss.127915946)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2020

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
Li, M. (2020). *Transforming childbirth practices: New style midwifery in China, 1912 – 1949*. [Thesis fully internal (DIV), University of Groningen]. University of Groningen. <https://doi.org/10.33612/diss.127915946>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Appendices

1. The number and percentage of normal births in different institutions in China, 1920s – 1948.

| | Time period | Number of deliveries | Number of normal births | Normal births% |
|---|---------------------------|----------------------|-------------------------|----------------|
| Peking Union Medical College Hospital, Beijing | 1920s | 2,175 | 1,760 | 81 |
| Zhejiang Provincial Hospital, Zhejiang province | 1930-1934 | 4,013 | 3,659 | 91 |
| Maternity Hospital of Medical School of Henan University, Henan province | 1932-1935 | 1,218 | 1,056 | 87 |
| Fujian Provincial Midwifery School Hospital, Fujian province | 1937-1940 | 1,737 | 1,590 | 92 |
| Town health station and maternity clinic of Bishan county, Sichuan province | 1943-1945 | 1,724 | 1,592 | 92 |
| District health stations at Chongqing | January – September, 1946 | 3,836 | 3,789 | 99 |
| Maternity Hospital of the National Central Midwifery School, Nanjing | January-June, 1947 | 520 | 465 | 89 |
| Health stations of cities and counties, Sichuan province | January – October, 1948 | 17,868 | 16,916 | 95 |

Sources: J. Maxwell and I.H. Wong, “On puerperal mortality and morbidity,” *National Medical Journal of China* 16(6), 1930: 684-703. Ge Chenghui, “Qian Zhejiang shengli yiyuan wuniannei zhuyuan chanfu 4,013 li zhi tongji [Statistics of 4013 inpatient parturients of the former Zhejiang Provincial Hospital in the past 5 years],” *Zhonghua yixue zazhi* [National Medical Journal of China] 21, no.5 (1935): 529-538. Ni Tonggang, “Heda yixueyuan fushu zhi chanfuke yiyuan zhi jinxi [Maternity Hospital of Medical School of Henan University, the current and the past],” *Yixue yuekan* [Medical Science Monthly] 2, no. 2 (1936): 79-84. “Shengli chanyuan chanfu shengyu gaikuang [Overview of the reproduction of of inpatient parturients at Fujian Provincial Midwifery School Hospital],” *Xin Fujian* 1, no. 2 (1942): 115-116. Yu Wei, *Bishanxian weisheng wunian shiyan baogao, 1940-1945* [Five-year health report of Bishan county, 1940-1945] (Bishan, 1945), Sichuan Provincial Archives: 113-01-0694. Chongqingshi zhengfu tongjichu, *Chongqingshi zhengfu tongjichu gongzuo baogao 1946 nian 1-5* [Report of the statistics department of Chongqing municipal government, January to May 1946] (Chongqing, 1946), Chongqing Municipal Archives: 0053-0030-00033-0000-005-002. Chongqingshi zhengfu tongjichu, *Chongqingshi zhengfu tongjichu gongzuo baogao 1946 nian 6-9* [Report of the statistics department of Chongqing municipal government, June to September 1946] (Chongqing, 1946), Chongqing Municipal Archives: 0053-0030-00033-0000-009-002. *Guoli zhongyang gaoji zhuchan zhiye xuexiao fushe chanyuan gongzuo tongjibiao* [Statistical report of the Maternity Hospital of the National Central Midwifery School] (Nanjing, 1947), the Second Archives of China: 5-10003. Sichuansheng weishengchu [Health department of Sichuan province], *Sichuan shengshixian geji weisheng jiguan tianbao fuying weisheng tongjibiao* [Statistical tables of maternal and infant healthcare in city and county health centers in Sichuan province] (Chengdu, 1948), Sichuan Provincial Archives: 113-01-0210.

2. The distribution of Christian residential centers and mission hospitals in different provinces and regions in China, 1910.

| | Population | Number of people per square kilometer | Number of Christian residential centers | Number of Christian residential centers per 10 million people | Number of mission hospitals | Number of mission hospitals per 10 million people |
|---|-------------|---------------------------------------|---|---|-----------------------------|---|
| North China | | | | | | |
| Manchuria | | | | | | |
| (Liaoning, Jilin and Heilongjiang) | 18,415,714 | 27 | 24 | 13 | 8 | 4 |
| Zhili | 26,721,353 | 172 | 22 | 8 | 17 | 6 |
| Shandong | 29,556,688 | 204 | 31 | 11 | 7 | 2 |
| Shanxi | 10,099,135 | 65 | 34 | 34 | 4 | 4 |
| Shaanxi | 8,074,013 | 41 | 27 | 34 | 1 | 1 |
| East China | | | | | | |
| Jiangsu | 26,221,089 | 262 | 23 | 9 | 15 | 6 |
| Zhejiang | 16,154,847 | 170 | 28 | 17 | 5 | 3 |
| Anhui | 16,229,052 | 114 | 22 | 14 | 5 | 3 |
| Jiangxi | 16,725,685 | 93 | 43 | 26 | 3 | 2 |
| Central China | | | | | | |
| Henan | 26,898,430 | 153 | 38 | 14 | 5 | 2 |
| Hubei | 23,941,694 | 129 | 27 | 11 | 11 | 5 |
| Hunan | 23,723,487 | 110 | 23 | 10 | 7 | 3 |
| South China | | | | | | |
| Fujian | 12,500,266 | 104 | 38 | 30 | 14 | 11 |
| Guangdong | 28,010,564 | 108 | 63 | 23 | 13 | 5 |
| Guangxi | 9,405,104 | 47 | 8 | 9 | 4 | 4 |
| West China | | | | | | |
| Gansu | 4,700,058 | 15 | 13 | 28 | 0 | 0 |
| Sichuan | 44,604,766 | 79 | 45 | 10 | 9 | 2 |
| Guizhou | 11,157,646 | 64 | 10 | 9 | 0 | 0 |
| Yunnan | 12,016,480 | 32 | 10 | 12 | 0 | 0 |
| Special Administrative Districts | | | | | | |
| Mongolia (including Rehe) | 3,866,194 | 1 | 11 | 29 | 0 | 0 |
| Xinjiang | 2,164,129 | 2 | 4 | 19 | 0 | 0 |
| Tibet (including Qinghai) | 1,685,844 | 1 | 0 | 0 | 0 | 0 |
| Total | 372,872,238 | 39 | 544 | 15 | 128 | 3 |

Appendices

Note: 1. Data for population in different provinces and regions are the elementary estimates made by Hou Yangfang, based on the national census of China conducted between 1909 and 1911. According to Hou, the total population of 372,872,238 is still underestimated. He calculated the possible under-registration of male (under 18 years old) and female population, and estimated that the total population of the whole country by 1911 was around 410 million. See Hou Yangfang, *Zhongguo renkoushi diliujuan, 1910-1953* [The history of population of China, volume 6: 1910 – 1953] (Shanghai: Fudan daxue chubanshe, 2001), 246-248.

2. Data for people per square kilometers are calculated based on population and areas of different regions. Data for the areas of different regions come from China Continuation Committee, *The Christian occupation of China*, 12.

3. Data for Christian residential centers come from China Continuation Committee, *The Christian occupation of China*, 283.

4. Data for mission hospitals come from Zhang Daqing, *Zhongguo jindai jibing shehuishi, 1912-1937* [A social history of disease in modern China, 1912-1937] (Jinan: Shandong jiaoyu chubanshe, 2006), 59; The resource portal of “The History of Western Medicine in China” project. Retrieved from: <http://www.ulib.iupui.edu/wmicproject/institutions/table> (last visited on 16 February 2020).

3. Vital Statistics (Population, IMR, MMR, CBR and CMR) of Beijing's first health district, 1926-1937.

| Year | Population | Number of births | Number of infant deaths | IMR% | Number of maternal deaths | MMR% | CBR% | CMR% |
|------|------------|---------------------|----------------------------|-------|------------------------------|------|------|------|
| 1926 | 51,189 | 1,277 | 234 | 183.2 | 15 | 11.8 | 24.9 | 24.1 |
| 1927 | 51,189 | 1,372 | 242 | 176.4 | 9 | 6.6 | 26.8 | 22.4 |
| 1928 | 97,877 | 781 | 154 | 197.2 | 10 | 12.8 | 8.0 | 8.6 |
| 1929 | 97,877 | 1,760 | 304 | 172.7 | 21 | 11.9 | 18.0 | 17.4 |
| 1930 | 106,574 | 1,842 | 262 | 142.2 | 12 | 6.5 | 17.3 | 13.9 |
| 1931 | 111,396 | 1,866 | 355 | 190.3 | 17 | 9.1 | 16.8 | 16.5 |
| 1932 | 117,941 | 2,494 | 447 | 179.2 | 16 | 6.4 | 21.1 | 18.2 |
| 1933 | 116,954 | 2,787 | 373 | 133.8 | 21 | 7.5 | 23.8 | 14.4 |
| 1934 | 120,680 | 2,836 | 358 | 126.2 | 19 | 6.7 | 23.5 | 13.9 |
| 1935 | 123,490 | 2,900 | 288 | 99.3 | 25 | 8.6 | 23.5 | 13.0 |
| 1936 | 120,491 | 2,901 | 433 | 149.3 | 15 | 5.2 | 24.1 | 17.1 |
| 1937 | 119,020 | 2,819 | 389 | 138.0 | 11 | 3.9 | 23.7 | 17.5 |

Note: 1. Source: Beijingshi weishengju diyi weishengqu shiwusuo [Beijing metropolitan health bureau first health district station], *Beijingshi weishengju diyi weishengqu shiwusuo dishisannian nianbao* [The 13th annual report of Beijing metropolitan health bureau first health district station] (Beijing, 1938).
2. The statistics are drawn from the summarized vital report published in 1938, covering information from 1926 to 1937. The number of births in 1932 recorded in this summarized report was 2,492, but the original report of 1932 (published in 1933) recorded a birth number of 2,494. It may be a typographic error made when data from the 1933 publication were copied to the 1938 publication. Here we use the number recorded in the original report of 1932.
3. The number of births, CBR and CMR of 1928 are exceptionally low. This is because the collection of birth statistics was disrupted by the administrative reorganization of the district in that year. Health experts of the station later estimated that CBR might be 18.6% and CMR 20.0% in 1928.

4. Vital statistics of Qinghe town (1931-1933) and Beijing (1934, 1935 and 1938).

| Qinghe town | | | | Beijing | | | | |
|-------------|---------------------|----------------------------|-------|---------------------|----------------------------|-------|------------------------------|------|
| Year | Number of births | Number of infant deaths | IMR‰ | Number of births | Number of infant deaths | IMR‰ | Number of maternal deaths | MMR‰ |
| 1931 | 93 | 24 | 258.1 | | | | | |
| 1932 | 81 | 15 | 185.2 | | | | | |
| 1933 | 98 | 21 | 214.3 | | | | | |
| 1934 | | | | 22,184 | 3,770 | 169.9 | 378 | 17.0 |
| 1935 | | | | 28,203 | 3,757 | 133.2 | 306 | 10.8 |
| 1938 | | | | 24,657 | 4,538 | 184.0 | 235 | 9.5 |

Source: Li Ting'an, *Zhongguo xiangcun weisheng wenti* [The problem of rural health in China] (Shanghai: Shangwu yinshuguan, 1935), 20 & 23. Beipingshi weishengju [Beiping metropolitan health bureau], *Beipingshi zhengfu weishengju er' shisan niandu yewu baogao* [Work report of the Beiping metropolitan health bureau in 1934] (Beiping, 1935), 17. Long Xiuzhang, "Beipingshi ershi niandu shengming tongji zhi gaikuang [An overview of vital statistics of Beijing in 1935]," *Weisheng yuekan* [Health Monthly] 2, no. 11-12 (1936): 1-4. Beijing tebieshi weishengju [Beijing special metropolitan health bureau], *Beipingshi er' shiqi niandu shengming tongji nianbao* [Annual report of vital statistics of Beijing for 1938] (Beijing, 1939), Tables 21 & 22

5. Percentage of infants delivered by different birth attendants in Beijing's first health district, 1926-1937.

| Year | Physicians and new style midwives | | | Traditional midwives (all) | | Traditional midwives (trained) | | Traditional midwives (untrained) | | Others | | Unknown | | Total |
|---------|-----------------------------------|------|------------------|----------------------------|---|--------------------------------|------|----------------------------------|------|------------------|-----|------------------|---|-------|
| | Number of births | % | Number of births | Number of births | % | Number of births | % | Number of births | % | Number of births | % | Number of births | % | |
| 1926 | 218 | 17.1 | 693 | 54.3 | | | | 330 | 25.8 | 36 | 2.8 | | | 1,277 |
| 1927 | 238 | 17.4 | 777 | 56.6 | | | | 342 | 24.9 | 15 | 1.1 | | | 1,372 |
| 1928 | 171 | 21.9 | 433 | 55.5 | | | | 176 | 22.5 | 1 | 0.1 | | | 781 |
| 1929 | 430 | 24.4 | 880 | 50.0 | | | | 450 | 25.6 | 0 | 0.0 | | | 1,760 |
| 1930 | 553 | 30.0 | 753 | 40.9 | | | | 536 | 29.1 | 0 | 0.0 | | | 1,842 |
| 1931 | 716 | 38.4 | 771 | 41.3 | | | | 375 | 20.1 | 4 | 0.2 | | | 1,866 |
| 1932 | 833 | 33.4 | 1,060 | 42.5 | | 708 | 28.4 | 352 | 14.1 | 0 | 0.0 | | | 2,494 |
| 1933 | 934 | 33.5 | 1,232 | 44.2 | | 1,042 | 37.4 | 190 | 6.8 | 0 | 0.0 | | | 2,787 |
| 1934 | 1,228 | 43.3 | 1,092 | 38.5 | | 947 | 33.4 | 145 | 5.1 | 0 | 0.0 | | | 2,836 |
| 1935 | 1,288 | 44.4 | 1,050 | 36.2 | | 896 | 30.9 | 154 | 5.3 | 0 | 0.0 | | | 2,900 |
| 1936 | 1,404 | 48.4 | 880 | 30.3 | | 709 | 24.4 | 171 | 5.9 | 0 | 0.0 | | | 2,901 |
| 1937 | 1,101 | 39.0 | 1,036 | 36.8 | | 748 | 26.6 | 288 | 10.2 | 0 | 0.0 | | | 2,819 |
| Average | | 35.6 | | 41.6 | | | | | 22.6 | | 0.2 | | | |

Note: 1. Source: Beijingshi weishengqu diyi weishengqu shiwusuo, *Beijingshi weishengqu diyi weishengqu shiwusuo dishisannian nianbao*, 8.
2. It was not until 1932 that statistics of infants delivered by trained and untrained traditional midwives were recorded separately.

Appendices

6. NMR in a chronological order, categorized by births related to regions, and hospitals, health institutions and trained midwives.

| | Year | Number of live births | Number of neonatal deaths | Average number of days between births and deaths | NMR | Estimated NMR in one month |
|--|--------------------------------|-----------------------------|---------------------------------|--|-------|----------------------------------|
| Regions | | | | | | |
| Huangjue village, Sichuan province (a) | 1905-1949 | 616 | 101 | 28 | | 164.0‰ |
| Beijing's first health district (b) | 1932-1935 and 1937 | 13,836 | 679 | 28 | | 49.1‰ |
| Taiwan (c) | 1936-1940 | - | - | - | | 62.3‰ |
| A village in Nanhai district, Guangdong province (d) | 1949-1950 | 748 | 77 | 28 | | 102.9‰ |
| China (e) | 1944-1949 | - | - | - | | 91.6‰ |
| Hospitals, health institutions and trained midwives | | | | | | |
| The First National Midwifery School Hospital, Beijing (f) | 1929-1938 | 13,031 | 436 | 14 | 33.5‰ | 51.5‰ |
| Cheeloo University Hospital, Shandong province (g) | 1934-1937 and 1939- 1940 | 1,607 | 73 | 10 | 45.4‰ | 69.9‰ |
| Xianyou Xiehe Hospital, Fujian province (h) | 1937-1946 | 1,130 | 52 | 28 | | 46.0‰ |
| Town health station and maternity clinic in Bishan county, Sichuan province (i) | 1943-1945 | 1,634 | 46 | 10 | 28.2‰ | 43.3‰ |
| 27 urban midwives, Sichuan province (j) | 1947-1948 | 442 | 11 | 10 | 24.9‰ | 38.3‰ |
| Wuxian county health station, Jiangsu province (k) | 1948-1949 | 700 | 15 | 10 | 21.4‰ | 33.0‰ |

Note:

(a) Source: see section 5.2.3 in chapter 5.

(b) Source: see Table 5.2.

(c) Source: S.W. Lee, "Infant and maternal mortality in Taipeh, Taiwan (Formosa)," *American Journal of Public Health* 41 (1951): 26-32.

Neonatal deaths in Taiwan were not reported until 1945. But based on the life table constructed from vital statistics for 1936-1940, Lee estimated that the NMR was 71.4‰ for males and 53.2‰ for females. Here we use the mean of the figures, 62.3‰.

(d) Source: Guangdongsheng weishengting [Health Office of Guangdong Province], *Guangdongsheng gaizao jiuchanpo gongzuo gaikuang* [Overview of the retraining of traditional midwives in Guangdong province] (Guangzhou, 1951), Guangdong Provincial Archives: 317-1-5-47~51.

This document was published in 1951, but the vital statistics presented were collected before 1950. The 77 neonatal deaths listed in the table were all attributed to tetanus, meaning that the total number of neonatal deaths in this village was larger.

(e) Source: Yan Rui, *Quanguo shengyu jieyu chouyang diaocha baogaoji, siwangjuan* [Collection of sample surveys on national fertility and birth control, volume of death] (Beijing: Zhongguo renkou chubanshe, 1993), 63-77.

(f) Source: "Biao 6: chanmu ji xinshenger yu chanhou liangxingqinei zhi qingkuang (yi shengchan didian qubie) [Table 6: State of parturient women and newborns in two weeks after delivery, categorized by location of delivery]," in *Di yi zhuchan xuexiao shizhounian jiniance* [The 10th annals of the first national midwifery school], ed. Di yi zhuchan xuexiao [The first national midwifery school] (Beijing, 1939), 32-34.

(g) Sources: *The University Hospital of Cheeloo University*. (Jinan, 1936, 1938, 1940, 1941).

As the report of Cheeloo University Hospital for the year 1938-1939 has not been found, the figure for this year is excluded. The average time of mothers and infants staying in the hospital for childbirth was 10.3 days,⁶⁰⁴ so it is assumed that the postnatal deaths of mothers and infants were recorded within ten days after delivery.

(h) Source: *Fujian Xianyou sili xiehe yiyuan yange* [The history of Xianyou private union hospital in Fujian] (Xianyou, 1946), 6-25, Nanjing Municipal Archives: 10100010303(01)0007.

The average interval between births and neonatal/maternal mortality was not clearly stated. However, according to the hospital rules, after mothers and infants were discharged, the hospital would send midwives on home-visits throughout the first month after delivery.⁶⁰⁵ Hence, it is inferred that the interval between births and deaths counted was twenty-eight days.

(i) Source: see Table 5.12.

As mentioned in chapter 5, trained midwives associated with health stations in Sichuan were usually requested to monitor the health of mothers and newborns in ten days following delivery, and they ought to submit their delivery records to their health stations monthly. It is assumed that these rules also applied to health stations elsewhere in China in the 1940s. Thus, it is estimated that the average interval between births and neonatal/maternal deaths reported by governmental health stations was prevalently ten days.

⁶⁰⁴ The note on the length of the hospitalization of childbirth could be found in *The University Hospital of Cheeloo University. Report for Year ending June 30, 1936*, 27.

⁶⁰⁵ *Fujian Xianyou sili xiehe yiyuan yange*, 16.

Appendices

(j) Source: see section 5.2.3 in chapter 5.

(k) Source: Wuxian weishengyuan [Wuxian county health station], “Fuying weisheng gongzuo yuebaobiao [Monthly work table of infant and maternal healthcare],” (Wuxian, 1948-1949). Suzhou Municipal Archives: I32-001-0209-032; I32-001-0255-049; I32-001-0255-055; I32-001-0255-057; I32-001-0271-012; I32-001-0271-015; I32-001-0271-018; I32-001-0271-022; I32-001-0271-024; I32-001-0271-026; I32-001-0271-028; I32-001-0271-030; I32-001-0284-006.

The statistics of the Wuxian county health station are obtained from monthly tables covering sixteen months of 1948 - 1949. Tables of the remaining eight months of the two years have not been found. It is noteworthy that most neonatal deaths recorded were ascribed to prematurity and asphyxia.

7. MMR in a chronological order, categorized by births related to hospitals, regions, and health institutions and trained midwives.

| | Year | Number of live births/ deliveries | Number of maternal deaths | Average number of days between births and deaths | MMR | Estimated MMR in 6 weeks |
|---|-------------------------|--------------------------------------|---------------------------|--|-------|--------------------------|
| Hospitals | | | | | | |
| Alice Memorial Hospital, Hong Kong (a) | 1926-1941 | 8,152 | 65 | 7 | 8.0‰ | 13.3‰ |
| The First National Midwifery School Hospital, Beijing (b) | 1929-1938 | 13,031 | 65 | 14 | 5.0‰ | 6.2‰ |
| Zhejiang Provincial Hospital, Zhejiang province (c) | 1930-1934 | 4,013 | 15 | 7 | 3.7‰ | 6.2‰ |
| Cheeloo University Hospital, Shandong province (d) | 1934-1937 and 1939-1940 | 1,607 | 22 | 10 | 13.7‰ | 19.6‰ |
| Fujian Provincial Midwifery School Hospital, Fujian province (e) | 1937-1940 | 1,696 | 4 | 7 | 2.4‰ | 3.9‰ |
| Xianyou Xiehe Hospital, Fujian province (f) | 1937-1946 | 1,130 | 11 | 28 | 9.7‰ | 10.2‰ |
| Nanjing Central Hospital, Jiangsu province (g) | 1948 | 1,440 | 7 | 10 | 4.9‰ | 6.9‰ |
| Guangzhou Central Hospital, Guangdong province (h) | 1948-1949 | 1,183 | 4 | 7 | 3.4‰ | 5.6‰ |
| Regions | | | | | | |
| Beijing's first health district (i) | 1926-1937 | 25,635 | 191 | 42 | | 7.5‰ |
| Taiwan (j) | 1938-1942 | 1,211,909 | 3,691 | 42 | | 3.0‰ |
| Taipei (k) | 1948-1949 | 21,156 | 57 | 42 | | 2.7‰ |
| Health institutions and trained midwives | | | | | | |
| Town health station and maternity clinic in Bishan county, Sichuan province | 1943-1945 | 1,634 | 3 | 10 | 1.8‰ | 2.6‰ |
| Wuxian county health station, Jiangsu province (l) | 1948-1949 | 700 | 2 | 10 | 2.9‰ | 4.1‰ |
| Midwife Ms Peng Ximei, Taiwan (m) | 1933-1946 | 879 | 2 | 10 | 2.3‰ | 3.3‰ |
| 27 urban midwives, Sichuan province (n) | 1947-1948 | 442 | 1 | 10 | 2.3‰ | 3.2‰ |

Appendices

Note:

(a) Source: Annie Sydenham, "Fifteen years of maternity work in the Alice Memorial Hospital," *Caduceus* 20, no. 3 (1941): 139-153.

The average interval between deliveries and maternal deaths was not clearly noted in the source. It was reported that before 1938 most of the parturient women stayed in the hospital for less than five days, but from 1938 onwards women were not allowed to leave the hospital until the 7th or 8th day after childbirth. Given that the majority of all these hospital births took place after 1938, it is assumed that between 1926 and 1941 the average interval between deliveries and maternal deaths reported by the hospital was seven days.

(b) Source: note (f) in Appendix 6.

(c) Source: Ge Chenghui, "Qian Zhejiang shengli yiyuan wuniannei zhuyuan chanfu 4013 li zhi tongji [Statistics of 4013 inpatient parturient women of the former Zhejiang Provincial Hospital in the past 5 years]," *Zhonghua yixue zazhi* [National Medical Journal of China] 21, no. 5 (1935): 529-538.

The average stay of parturient women in the hospital was 6.3 days. Thus, it is assumed that the postnatal maternal deaths recorded in the report occurred on average within seven days after delivery.

(d) Sources: note (g) in Appendix 6.

(e) Source: "Shengli chanyuan chanfu shengyu gaikuang [Overview of the reproduction of inpatient parturients at Fujian Provincial Midwifery School Hospital]," *Xin Fujian* [New Fujian] 1, no. 2 (1942): 115-116.

The overview does not reveal the average interval between births and maternal deaths in the hospital. As in the same period many other hospitals required parturient women to stay in hospital for around one week after delivery, it is assumed that the average interval between births and maternal deaths recorded in this hospital was seven days.

(f) Source: note (h) in Appendix 6.

This hospital provided postnatal care to parturient women and their newborns for around one month, during which maternal deaths were recorded. It is not clear which proportion of maternal deaths occurred within twenty-eight days after delivery in Republican China. Loudon has shown that in this period averagely 95% of all maternal deaths in Western countries occurred within one month after delivery.⁶⁰⁶ Thus, maternal deaths recorded in this hospital's report are accordingly estimated at 95% of total maternal deaths associated with this hospital.

(g) Source: *Nanjing zhongyang yiyuan 1948 niandu menzhen zhuyuan tongjibiao* [Statistical tables of in- and outpatient services of Nanjing Central Hospital 1948] (Nanjing, 1948), The Second Archives of China: 12-3387.

Statistics obtained from the monthly reports of Nanjing Central Hospital cover the number of deliveries and maternal deaths for eight months in 1948. Reports of the remaining four months of the year have not been found. The average length of parturient women's stay in this hospital was ten days.

(h) Source: *Guangzhou zhongyang yiyuan gexiang tongji yuebaobiao* [Monthly statistical tables of Guangzhou Central Hospital] (Guangzhou, 1948 and 1949), The Second Archives of China: 12-3388, 6-419, and 6-910.

Statistics for Guangzhou Central Hospital cover the number of deliveries and maternal deaths for thirteen months in 1948 and 1949. The average length of parturient women's stay in this hospital was seven days.

⁶⁰⁶ Loudon, *Death in childbirth*, 22.

(i) Source: Appendix 3.

(j) Source: note (c) in Appendix 6.

Maternal mortality and the number of live births refer to Taiwanese only, excluding Japanese residents. Data for MMR presented in this article are originally from the Statistics Office of the Taiwan Government.

(k) Source: note (c) in Appendix 6.

These Statistics were taken from records kept by the Taiwan Provincial Health Department and the Census Bureau of the Taipei Municipal Government. But Lee warns that the compilation of the Taiwanese statistics has suffered from a lack of competent statisticians to check and to report the data. Furthermore, the influx of Nationalist government staff from mainland China in 1949 and the changes in birth registration were thought to affect the reporting of birth and death. It is hence likely that these statistics are underestimated.

(l) Source: (k) in Appendix 6.

(m) Source: Chung Shu-chi, *Cong renchanfu mingbu dao zhuchansuo: Taiwan (Hsinchu) zhuchanshi de lishi yanjiu (1920-1970)* [From lying-in women to midwifery clinics: a historical study of midwives in Hsinchu, Taiwan, 1920-1970] (New Taipei: Huamulan wenhua chubanshe, 2014).

According to Chung, midwife Ms Peng Ximei routinely made postnatal visits to check the well-being of mothers and infants. The exact length of the period of postnatal care offered by Ms Peng is not indicated in the source, but Chung mentions that the required period of postnatal visit for licensed midwives in colonial Taiwan varied from ten days to one month, depending on the health of mothers and infants. Yu Chien-ming's study shows that postnatal care usually lasted less than two weeks in colonial Taiwan.⁶⁰⁷ Here it is assumed that Ms Peng provided postnatal home care for an average of ten days after delivery, and that she counted maternal mortality within this period.

(n) Source: see section 5.2.3 in chapter 5.

⁶⁰⁷ Yu Chien-ming, "Midwives during the Japanese occupation," *Taiwan Studies: A Journal of Translation* (May 1996): 6-48.